

146698

Friday, May 20, 2016 1:50:56 PM

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Start Date: 5/6/2016 **Start Qty:** 4.00

4

Required Date: 5/20/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Run Start *NR1*

Approvals: Process Plan: MLS Date: MAY 24 2016 Tooling: _____ Date: _____

Stop ***NR2***

OC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3167	Rev A1

120		0.00
120	FLOW WATER JET	
Waterjet	Memo	1.60
FLOW CNC Waterjet	Cut Blank as per File D3167-1 BLANK	

④ _____ a 16/07/13

130	0.00
-----	------

130 HAAS CNC VERTICAL MACHINING #1
HAAS 1 Memo 2.68

HAAS CNC vertical machine #1

Note: (2) Bearpaw for (1) Kit
1-Inspect material for defects or damage prior to machining
2-Machine as per Folio FA285 and Dwg D3167
3-Deburr

4 8 DAS 33 9-89 16/02/03

140	QC2- Inspect parts off machine FAI/FAIB	0.00
-----	---	------

140
QC Memo 0.04

Quality Control

4 2

DAS
33
9-89

11/08/0

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					

Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐							

Work Order ID 146698

146698

Page 2

Friday, May 20, 2016 1:50:56 PM

Item ID: D3167-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Bearpaw

Start Date: 5/6/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 5/20/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC8- Inspect parts - second check	0.00				4	0		14 16/08/03 9-89
150									
QC	Memo	0.08							
Quality Control									
151	Identify as per dwg & Stock Location: <u>St</u>	0.00							
151									
Packaging	Memo	0.04							
Packaging									
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.40							
Quality Control									

DAS
6
9-89

AUG 04 2016

DAS
21
9-89

AUG 04 2016

2m 16/08/03.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

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Page 1

Work Order ID: 146698

146698

Parent Item: D3167-1

D3167-1

Parent Item Name: Bearpaw

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 4.00

Required Qty: 4.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB10		Purchased				120	sf	460.2330	3.6	14.4			

MUHMWB10

**

on 16/07/13

UHMW 1" Black - 48"x120" Tivar Mfg.#52480104

Location

Loc Qty

Loc Code

MAT

29.9

m134171

29.9

MAT018

430.333

m131661

1.473

m134372

28.86

m134823

400

135013

17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coor. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐	

DART AEROSPACE LTD		Work Order:	146698
Description: Bearpaw		Part Number:	D3167-1
Inspection Dwg: D3167 Rev: A1		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension		Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
A	0.06 x 45°	+0.030/-0.010	0,050 x 45°	✓		MJP-04	vern
B	5.80	+/-0.030	5,798	✓			
C	0.25 x 45°	+/-0.030	0,250 x 45°	✓			
D	R0.25	+/-0.030	0,250	✓			
E	0.200	+/-0.030	0,205	✓			
F	0.250	+/-0.010	0,260	✓			
G	0.625	+/-0.030	0,636	✓			
H	0.375	+/-0.010	0,377	✓			
I	0.950	+0.030/-0.010	0,960	✓			
J	3.21	+/-0.030	3,21	✓			
K	19.00	+/-0.030	19,000	✓			
L	Ø0.260	+0.005/-0.000	0,260	✓			
M	Ø0.93	+/-0.030	0,930	✓			
N	0.30	+0.030/-0.000	0,315	✓			
O	0.375	+/-0.030	0,380	✓			
P	7.23	+/-0.030	7,230	✓			
Q	4.54	+/-0.010	4,540	✓			
R	2.00	+/-0.030	2,000	✓			
S	12.000	+/-0.010	12,000	✓			
T	6.000	+/-0.010	6,000	✓			
U	23.75	+/-0.030	23,750	✓			

Measured by:	DAS 33	Audited by:	DAS 14/08/03	Prototype Approval:	N/A
Date:	9-89 14/08/03	Date:	14/08/03	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.09.22	New Issue P/O D130-700-011	KJ/RF	



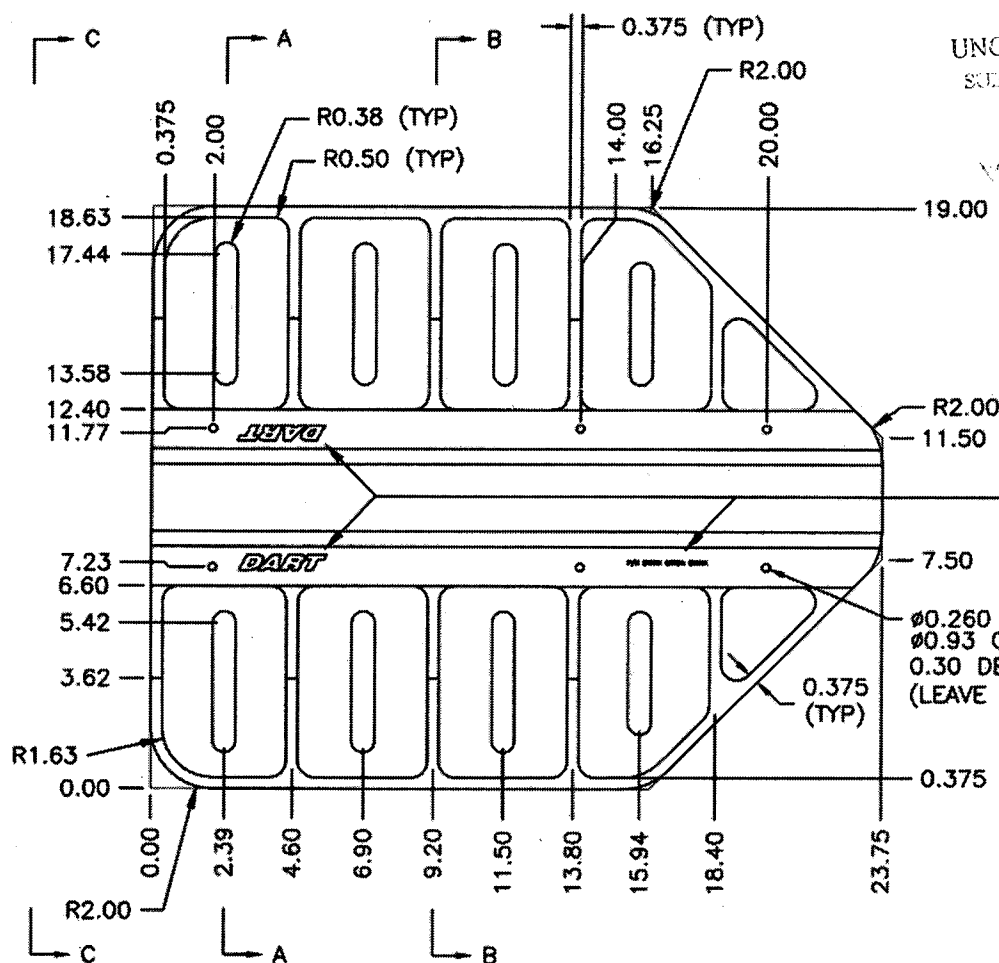
DESIGN	DRAWN BY	DART AEROSPACE LTD	
		HAMKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. A
		D3167	SHEET 1 OF 2
DATE		TITLE	SCALE
02.10.08		BEARPAW	1:6
A	02.10.08	NEW ISSUE	
A1	02.12.17	5.80 WAS 5.50	

RELEASED
02.10.25-1

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

146098 MJS
1605-24

ENGRAVE LOGO TO MAX
DEPTH OF 0.012. ENGRAVE
PART AND BATCH NUMBERS
TO MAX DEPTH OF 0.010.
(TYPICAL LOCATION AS
ILLUSTRATED)



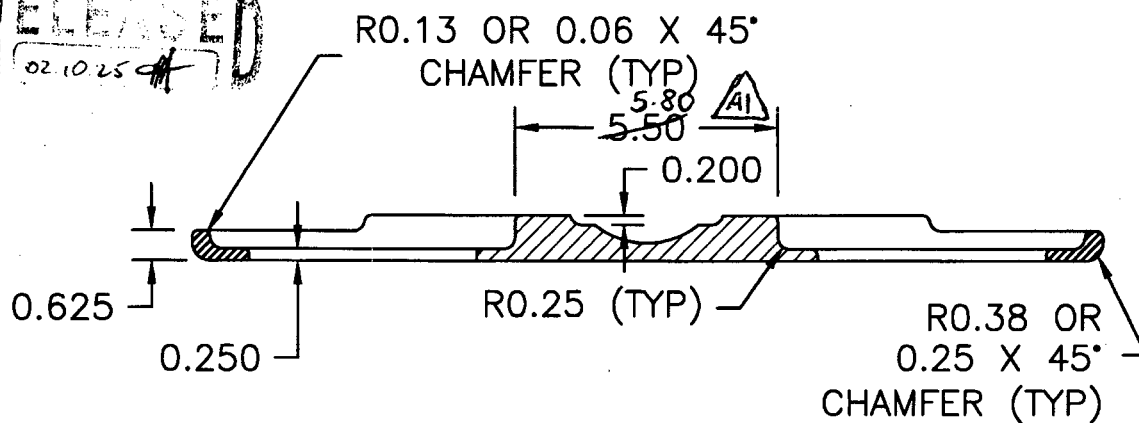
D3167-1

MATERIAL: UHMW BLACK PER SPEC CONTROL DRAWING D2689
1.00 THICK (MACHINE TO 0.950)
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

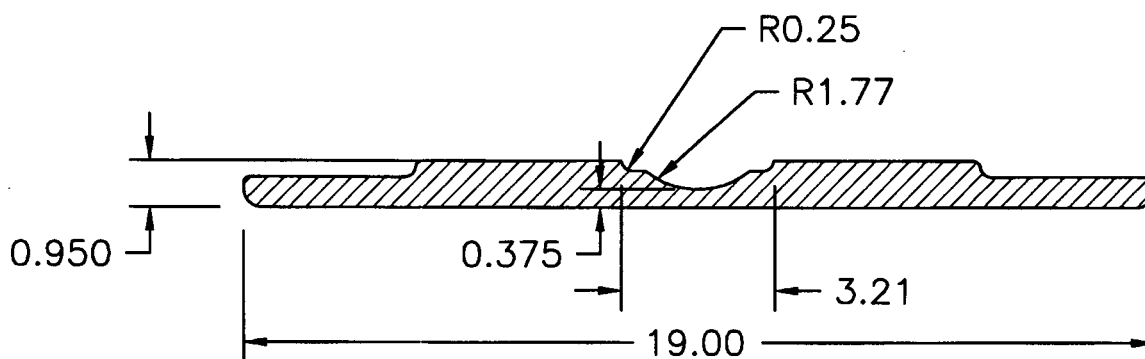


DESIGN 	DRAWN BY 	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D3167	REV. A SHEET 2 OF 2
DATE 02.10.08		TITLE BEARPAW	SCALE 1:4

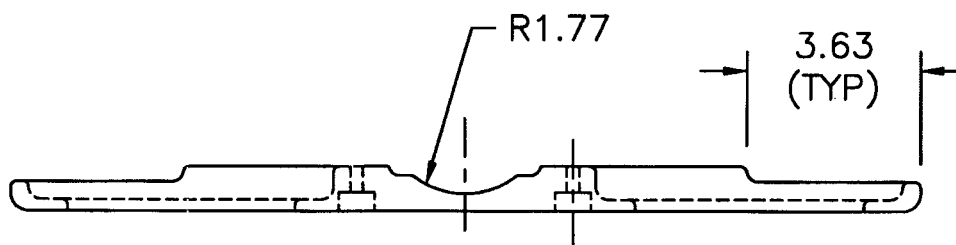
RELEASED
02.10.25



SECTION A-A



SECTION B-B



SECTION C-C

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